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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/885,515	06/20/2001	Monty Gatehouse	9354.00	3359

7590 12/22/2003

Michael Chan
Intellectual Property Section
Law Department, NCR Corporation
1700 South Patterson Blvd.
Dayton, OH 45479-0001

EXAMINER

BOOKER, KELVIN E

ART UNIT	PAPER NUMBER
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2121

DATE MAILED: 12/22/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/885,515

Applicant(s)

GATEHOUSE ET AL.

Examiner

Kelvin E Booker

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: *Detailed Office Action*.

DETAILED ACTION

Information Disclosure Statement

1. References "AR" and "AS" of the information disclosure statement filed September 27, 2001 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the applicant fail to provide the pertinent documentation necessary for consideration (e.g., authorship, publication dates). The references have been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 4-12** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 provides for a method of *displaying a visual decision tree model respective of user selections* but, since the claim does not set forth any steps involved in the method/process, it

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is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. **Claims 1-12** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. While the claims are in the technological arts, they are not limited to practical applications in the technological arts.

Specifically, the claims are directed toward a series of steps to be performed on a computer, but the ideas are disclosed abstractly from any particular practical application.

Claims 1-3, focus is on *a computer apparatus comprising a means for displaying a visual decision tree model*, wherein the elements are recited in means plus function format, however the claims fail to define a statutory specific machine. A machine or manufacture or system claim may be one of two types: (1) a claim that encompasses any and every machine for performing the underlying process or any and every manufacture that can cause a computer to perform the underlying process, or (2) a claim that defines a specific machine or manufacture. When a claim is of the first type, Office personnel are to evaluate the underlying process the computer will perform in order to determine the patentability of the product.

The mere fact that a hardware element is recited in the claim does not necessarily limit the claim to a specific machine or manufacture. If a product claim encompasses any and every computer implementation of a process, when read in light of the specification, it should be examined on the basis of the underlying process. Such a claim can be recognized, as it will define the physical characteristics of a computer or computer component exclusively as functions or steps to be performed on or by a computer, and encompass any and every product in the stated class, configured in any manner to perform the process.

Claims that define a computer-related invention as a specific machine or specific article of manufacture must define the physical structure of the machine or manufacture in terms of its hardware or hardware and "specific software." The applicant may define the physical structure of a programmed computer or its hardware or software components in any manner that can be clearly understood by a person skilled in the relevant art. Generally a claim drawn to a particular programmed computer should identify the elements of the computer and indicate how those elements are configured in either hardware or a combination of hardware and specific software.

Further, **claim 4** addresses a series of steps to be performed on a computer, but the idea is disclosed abstractly from any particular practical application. The aforementioned claim focuses on a method for *displaying a visual decision tree model respective of user selections*, but fail to disclose the necessary steps to enable the claimed process.

To constitutionally interpret the word "process", the Supreme Court has held that: *****A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject matter to be transformed and reduced to a different state or thing. ***The Process requires that certain things should be done with certain**

substances, and in a certain order; but the tools to be used in doing this may be a secondary consequence.”(emphasis added) *Diamond, Commission of Patents and Trademarks v. Diehr and Lutton*, 209 USPQ 1, 6 (1981) quoting *Cochrane v. Deener*, 94 U.S. 780, 787-788 (1876).

This Constitutional interpretation of the word “process” is a long-standing one that the Supreme Court requires to be applied in interpreting 35 USC 101. *Diamond v. Diehr* at 6. Consequently, the use of that interpretation is Constitutionally required when we interpret the Federal Circuit’s standard that a “new and useful process” is one that produces a useful, concrete, and tangible result”. Cf. *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 47 USPQ2d 1596, 1600-1601 (Fed. Cir. 1998).

Applicant discloses no “certain substances” that have been “transformed or reduced” in that applicant’s claims disclose no specific computer-readable medium, no manipulation of specific data representing physical objects or activities (pre-computer activity), nor do they disclose any specific independent physical acts being performed by the invention (post-computer activity).

Claims 2, 3 and 5-12 do not cure the defect in the **claims 1 and 4**. On this basis, **claims 1-12** are rejected under 35 USC 101.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 1-6, and 9-12** are rejected under 35 U.S.C. 102(b) as being anticipated by Dillon et al, "Risk of Extreme Events Via Multi-objective Decision Trees: Application to Telecommunications" [hereafter Dillon].

As per claim 1, Dillon teaches of a computer apparatus comprising:

means for displaying a visual decision tree model in a symbol based table, the visual model including a plurality of visual objects, each of the visual objects being linked to at least one other object to form a decision tree such that after the initial object the tree displays only visual objects which depend from objects which have been selected by a user (see Abstract; Figures 2 and 3 on page 265; and page 265, column 1, paragraph 2 through column 2, paragraph 2: "Decision trees provide...Option 3 is selected").

As per claim 2, Dillon teaches of a computer apparatus wherein information is provided to the user through *browser buttons* (e.g., graphical means which allows the user to make an interactive decision respective of the executing application) at each object (see page 265, column 1, paragraph 3: "Like a real tree...through the tree").

As per claim 3, Dillon teaches of a Computer apparatus wherein once the final object set in the tree is presented, consequences of that choice are presented to the user (see page 265, column 1, paragraph 2 through column 2, paragraph 1: "Decision trees provide...each of the options").

As per claim 4, Dillon teaches of a computer implemented method comprising:

displaying a visual decision tree model in a symbol based table, the visual model including a plurality of visual objects, each of the visual objects being linked to at least one other

object to form a decision tree, and after the initial object the tree displaying only visual objects which depend from objects which have been selected by a user (see Abstract; Figures 2 and 3 on page 265; and page 265, column 1, paragraph 2 through column 2, paragraph 2: “Decision trees provide...Option 3 is selected”).

As per claim 5, Dillon teaches of a method wherein information is provided to the user through *browser buttons* at each decision level within the tree (see Figures 2 and 3 on page 265: squares present user options; and page 265, column 1, paragraph 2 through column 2, paragraph 1: “Decision trees provide...each of the options”).

As per claim 6, Dillon teaches of a method wherein the information includes issues that the user should consider prior to making the decision (see Figures 2 and 3 on page 265: circles present user chance/resultants based upon user choices; and page 265, column 1, paragraph 2 through column 2, paragraph 1: “Decision trees provide...each of the options”).

As per claim 9, Dillon teaches of a method wherein once the final object in the tree is presented, consequences of that choice are presented to the user (see figures 2, 3 and 8: resultants of user choices).

As per claim 10, Dillon teaches of a method wherein the consequences include cost implications of the choice (see figure 8; and page 267, column 2, paragraph 1 through page 268, column 1, paragraph 2: resultant costs respective of the user decision tree choices).

As per claim 11, Dillon teaches of a method wherein the consequences include workload implications of the choice (see figure 8; and page 267, column 2, paragraph 1 through page 268, column 1, paragraph 2).

As per claim 12, Dillon teaches of a method wherein the consequences include risk analysis of the choice (see page 266, column 2, paragraph 2 through paragraph 4: risk associated with decision tree choices).

Conclusion

8. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- A. Guyon et al., U.S. Patent Application Publication No. 2003/0172043;
- B. Sahami et al., U.S. Patent Application Publication No. 2003/0065635;
- C. Ahmed, U.S. Patent Application Publication No. 2002/0107824;
- D. Honarvar et al. U.S. Patent No. 6,430,545;
- E. Jacobs et al., U.S. Patent No. 6,353,817;
- F. Grimse et al., U.S. Patent Application Publication No. 2002/0023064;
- G. Anwar, U.S. Patent Application Publication No. 2001/0047355;
- H. Rofrano, U.S. Patent No. 6,324,536;
- I. Mukherjee, U.S. Patent No. 6,314,415;
- J. Skaanning et al., U.S. Patent Application Publication No. 2001/0011260;
- K. Grimse et al., U.S. Patent No. 6,269,355;
- L. Lovasz et al., "Search Problems in the Decision Tree Model";
- M. Demsar et al., "Using Machine Learning for Content-Based Image Retrieval";
- N. Boekelder et al., "Selecting and Switching: Some Advantages of Diagrams Over Tables and Lists for Presenting Instructions";

O. Li et al., "Investment Decision Making Using FGP: A Case Study";

P. MacArthur et al., "Relevance Feedback Decision Trees in Content-Based Image Retrieval";

Q. Holmes et al., "A Diagnostic Tool for Tree Based Supervised Classification Learning Algorithms";

R. Hall et al., "Decision Tree Learning on Very Large Data Sets";

S. Khoshgoftaar et al., "A Tree-Based Classification Model for Analysis of a Military Software System";

T. Santha, M., "On the Monte Carlo Boolean Decision Tree Complexity of Read-Once Formulae";

U. Ben-Asher et al., "Decision Trees with AND, OR Queries"; and

V. Hajnal, P., "On the Power of Randomness in the Decision Tree Model".

9. An inquiry concerning this communication or earlier communications from the examiner should be directed to Kelvin Booker whose telephone number is (703) 308-4088. The examiner can normally be reached on Monday-Friday from 7:00 AM-5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anil Khatri, can be reached on (703) 305-0282. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306.

An inquiry of a general nature or relating to the status of this application proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

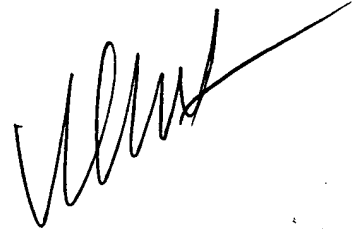
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December 12, 2003

A handwritten signature in black ink, appearing to read 'Anil Khatri', with a long horizontal stroke extending to the right.

ANIL KHATRI
SUPERVISORY PATENT EXAMINER